

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant/Appellant:) VENKAT K. RAGHAVENDRAN
Application No:) 10/696,869
Confirmation No.) 9106
Filed:) October 30, 2003
Title:) IMPROVED GLASS MAT THERMOPLASTIC
) COMPOSITE
Examiner) Jill M. Gray
Art Unit:) 1794

Charlotte, North Carolina

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REPLY BRIEF

Dear Sir:

In response to the Examiner's Answer of August 29, 2008, the following remarks are made:

1. Rejection of claims 1-14, 26, 29-32, 34-35, and 38-54 as being unpatentable over Kim in view of Winckler et al (Winckler).

The Examiner continues to err in asserting that it would have been obvious to combine the teachings of Kim and Winckler. Specifically, the Examiner believes it would have been

obvious for one of ordinary skill in the art to replace the thermoplastic polyester sheet as taught in Kim with a macrocyclic polyester oligomer and catalyst blend as taught by Winckler.

Appellant continues to assert that such a leap as advocated by the Examiner is of monumental proportions, and would not have been obvious to one of skill in the art. The Examiner is employing hindsight reasoning, which is impermissible.

In reiterating the limitations set forth in Kim, the Examiner admits that “Kim is silent as to the specific proportions of the polycarbonate within the blend and does not specifically teach a ‘macrocyclic oligoester’ of the type set forth in the instant claims.” Examiner Answer, p. 4. The Examiner also reiterates the limitations as set forth in Winckler, and that Winckler teaches the use of a macrocyclic polyester oligomer and a polymerization catalyst. Examiner Answer, p. 4. However, the Examiner merely pays lip service to the requirement of some teaching, suggestion, or reason to combine the cited references.

In reliance upon her position, the Examiner cites *In re Henley*, 112 USPQ 385 (Fed. Cir. 1983). Examiner’s Answer, p. 9. Upon review of the alleged cited case supporting the Examiner’s position, it appears the case cite is incorrect. The citation 112 USPQ 385 refers to *Kinnear-Weed Corp. v. Humble Oil & Refining Co.* a decision from the United States District Court for the Eastern District of Texas. However, a search for a case titled *In re Henley* returns a 1956 case from the United States Court of Customs and Patent Appeals (*In re Henley*, 112 USPQ 56 (CCPA. 1956)) that actually supports the arguments espoused by the Appellant. In the aforementioned case, the Court stated it is well established that to determine patentability “the ultimate question is whether the features of the subject matter in question display inventive concept over the prior art. (citing *In re Voit et al*, 33 C.C.P.A 737, 68 USPQ 206).

Applying the principles stated in *In re Henley*, which presumably the Examiner has relied upon, conclusively supports the position of the Appellant. The present application teaches one skilled in the art to use both the thermoplastic resin layer and a macrocyclic oligomer layer, particularly when the macrocyclic oligomer layer also comprises polycarbonate, for example as set forth in claim 1. The prior art references of Kim and Winckler fail to teach or disclose this limitation. Additionally, neither the combination of Kim and Winckler would teach or disclose

this limitation. Instead, the combination of Kim in view of Winckler would tell one skilled in the art to replace the thermoplastic resin-rich layer 12, for example, of Kim with the macrocyclic polyester oligomer/catalyst component of Winckler. The use of both a thermoplastic resin layer and a macrocyclic oligomer layer, as taught in the present application, clearly exemplifies a display of inventive concept over both Kim and Winckler, as required by *In re Henley* for patentability.

Appellant stated in its argument that the Examiner's futile attempt to combine Kim and Winckler was impermissible hindsight. Appeal Brief, page 8. Applicant reiterates this argument herein. In response, the Examiner cites *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971), but in so doing ignores the proscription that the Examiner cannot use knowledge gleaned only from Applicant's disclosure. Reading Kim and Winckler as a whole, without the knowledge of the present invention, shows that a fiber reinforced laminate may be constructed of either a thermoplastic polyester sheet or a macrocyclic oligomer layer. One of ordinary skill in the art, if combining Kim and Winckler, would merely replace the thermoplastic resin of Kim with the blend of the macrocyclic polyester oligomer and catalyst taught by Winckler. Only after a review of the present application would one of ordinary skill in the art realize there is a reason to combine the thermoplastic polyester sheet with the macrocyclic oligomer. To propose otherwise, as the Examiner has done in her Examiner's Answer, is simply impermissible hindsight.

"The genius of invention is often a combination of known elements which in hindsight seems preordained. To prevent hindsight invalidation of patent claims, the law requires some 'teaching, suggestion, or reason' to combine references." *McGinley v. Franklin Sports, Inc.*, 262 F.3d 1339, 1351, 60 USPQ2d 1001 (Fed. Cir. 2001). Additionally, "the motivation to combine references cannot come from the invention itself." *Heidelberger Druckmaschinen AG v. Hantscho Commercial Products, Inc.*, 21 F.3d 1068, 1072 30 USPQ2d 1377, 1380 (Fed. Cir. 1993). The Examiner has stated that the combination of Kim and Winckler is "motivated by the ability to reduce processing time and energy consumption during the molding process because said macrocyclic polyester oligomers have favorable crystallization rates." Examiner Answer, p. 5. As specifically pointed out in Appellant's brief, the importance of a polymerizable component

comprised of macrocyclic oligomer as disclosed in the present invention is that there is a manufacturing efficiency achieved. Appellant Brief, p. 6. Based upon the Examiner's own admission within the Answer, the Examiner has impermissibly stated the motivation to combine references has come from the present invention, which is impermissible hindsight as set forth in *Heidelberger Druckmaschinen AG, supra*.

Reversal of the rejection of claim 1 and the claims that depend there from is requested.

2. Separate Argument for Claims 43 and 47.

Appellant separately argued Claims 43 and 47 at pages 8 and 9 of the Appeal Brief. The Examiner responds that Claims 43 and 47 involve "a mere duplication of parts." Examiner Answer, p. 10. The Examiner further attempts to propose *St. Regis Paper, Co. v. Bemis Co., Inc.*, 193 USPQ 8 (7th Cir. 1977) supports her position. In *St. Regis*, the Court reversed a ruling of patent validity by the District Court and based their ruling on the fact that the stepping of the layers "was the work of a skillful mechanic rather than an inventor." The subject matter of *St. Regis* deals with bags, while the present invention deals with chemical compositions and the relationship and functionality between chemical compositions, which is clearly set forth on pages 8 and 9 of the Appeal Brief.

The five layer composite set forth in Claims 43 and 47 is not a mere duplication of parts and certainly not the work of a skillful mechanic. Claim 43 and 47 call for, among other things, a core layer of the macrocyclic polyester oligomer, followed by a layer of reinforcing fibers, and followed lastly by another thermoplastic resin. When both the core and thermoplastic resin have melted, the polymerization agent contained in one of the layers mixes with the chemically reacted component (the macrocyclic polyester oligomer layer) thus causing it to polymerize quickly. The Examiner's reliance upon *St. Regis* is misplaced, since the inventors invented the five layer composite set forth in claims 43 and 47, rather than a skilled mechanic. Further, the five layers are designed and intended to form a fiber reinforced laminate that polymerizes quickly, resulting in a much more technical and intertwined structure than a mere duplication of parts.

Reversal of the rejection of Claims 43 and 47 and the claims that depend there from is requested.

3. Rejection of Claims 43-54 as being unpatentable over Minnick et al in view of Winckler

In the Examiner's Answer, the Examiner continues to argue that it would have been obvious to those skilled in the art to modify the teachings of Minnick by using a blend of polycarbonate and macrocyclic polyester oligomer blended with the polymerization catalyst as taught by Winckler. As the Examiner has done previously, this rejection involves a leap of monumental proportions. The Examiner blindly states that one skilled in the art would be motivated by the ability to reduce processing time and energy consumption during the molding process because macrocyclic polyester oligomers have a favorable crystallization rates. The Examiner has failed to provide any reasoning or examples for this statement as requested by Appellant on page 10 of the Appeal Brief. Since the Examiner ignored these arguments in the Examiner's answer, this is reversible error. *In re Hedges*, 783 F.2d 1038, 1039, 228 USPQ 685, 686 (Fed. Cir. 1986). *In re Hedges* states:

If a *prima facie* case is made in the first instance, and if the applicant comes forward with reasonable rebuttal, whether buttressed by experiment, prior art references, or argument, the entire merits of the matter are to be reweighed. (citing *In re Piasecki*, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir. 1984)).

Rather than reweigh the entire merits of the case as required, the Examiner treats her rejection as unassailable by merely stating "that a *prima facie* case of obviousness has been established, thus, the burden shifts to the appellant to come forward with arguments and/or evidence to rebut the *prima facie* case." Examiner's Answer p. 11. The Examiner's position is incorrect, and is reversible error.

The Examiner continues to assert that it would have been obvious to modify the teachings of Minnick by using a blend of polycarbonate and macrocyclic polyester oligomer blended with a polymerization catalyst as taught by Winckler, motivated by the ability to reduce processing

time and energy consumption. Examiner's Answer p. 7 and 8. This statement is plainly incorrect. As Appellate stated in its Appeal Brief, combining Minnick with Winckler would not have been obvious. Appeal Brief p. 8. Particularly, it would not have been obvious by those skilled in the art to modify the teachings of Minnick by using a blend of polycarbonate and macrocyclic polyester oligomer blended with the polymerization catalysts as taught by Winckler.

The Examiner believes one would have been motivated to modify the teachings of Minnick by the ability to reduce processing time and energy consumption during the molding process because macrocyclic polyester oligomers have favorable crystallization rates. The Examiner has failed to particularly point out the motivation to replace the polyester that may be blended with the polycarbonate with a macrocyclic polyester oligomer and polymerization catalyst. Further, the Examiner has failed to particularly point out favorable crystallization rates and favorable temperatures when small amounts are used. Furthermore, the Examiner has failed to provide proof that polycarbonate has a faster crystallization rate than polyester. Simply put, Winckler does not provide a suggestion or motivation for the modification as the Examiner proposes. Therefore, it would not have been obvious by those skilled in the art to modify the teachings of Minnick by using a blend of polycarbonate and macrocyclic polyester oligomer blended with the polymerization catalysts as taught by Winckler as the Examiner proposes.

Reversal of the rejection of Claims 43 and 47 and the claims that depend there from is requested.

SUMMARY

For the reasons set forth above and in the Appeal Brief, the obviousness rejections are factually and legally in error and should be reversed.

Respectfully submitted,

Date: October 28, 2008

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